

Primary Tuberculous Mastitis, a Rare Entity: Diagnostic Dilemmas in Radiological Imaging

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Abstract:

Breast tuberculosis (TB), or tuberculous mastitis (TM), is a rare form of extrapulmonary tuberculosis caused by *Mycobacterium tuberculosis*. Although TB is prevalent worldwide, especially in developing countries, involvement of the breast is uncommon. TM can be primary, with localized breast involvement, or secondary, spreading from other sites.

This retrospective observational study reviewed 25 cases of primary TM diagnosed between June 2023 and December 2024. The mean age was 33.91 years. Only 12.5% were lactating women. The common presentations were a painless unilateral breast lump without systemic symptoms like fever or weight loss. Other presentations include chronic and repeated a febrile abscess. Most of imaging findings on mammography and ultrasound consist of irregular, ill-defined heterogeneous masses, often mimicking malignancy. Lesion sizes varied significantly, and sinus formation or fistulous tracts were present in 64% of cases. All lesions were categorized as BIRADS 4 with wide range of probability for breast cancer.

Despite negative results for acid-fast bacilli (AFB) and *Mycobacterium tuberculosis* (MTB) on microbiological tests—possibly due to technical limitations or atypical strains—histopathological analysis revealed chronic granulomatous mastitis (GM) in 79.2% of cases confirming the diagnosis. GM with caseous necrosis and Langhans giant cells was consistent with TB.

In conclusion, breast TB is a rare but challenging entity to diagnosis on radiological imaging mainly because of its ability to mimic carcinoma, clinicians must maintain a high index of suspicion especially in endemic areas and rely on histopathology for definitive diagnosis especially if PCR and microbiology both are negative to ensure appropriate management that is Medical in most of cases with surgical intervention reserved for abscess drainage.

Keyword:

Tuberculosis, Mastitis, Extra pulmonary, breast, Mammography.